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ABERDEEN PLANT MATERIALS CENTER DEVELOPS NEW PLANTS FOR CONSERVATION

ABERDEEN CENTER TESTS & DEVELOPS NEW PLANTS FOR CONSERVATION IN THE INTERMOUNTAIN WEST

By Steve Stuebner

Aberdeen is a quiet farm town on the north side of American Falls Reservoir with a population of less than 2,000 people. It's also home to the Aberdeen Plant Materials Center, an important research and incubator facility that serves a huge territory-- 83 million acres in the Great Basin spread over Idaho, Nevada, Oregon, Utah and Wyoming.

The Aberdeen Plant Materials Center was established initially in 1939. The South Bingham Soil and Water Conservation District has always been very supportive of the research facility, noted Carolyn Firth, agricultural program specialist for the Idaho Soil and Water Conservation Commission.

Firth explained the South Bingham District bought a 45-acre farm for the Aberdeen PMC early on, allowing the fields to be used for research purposes. The center grows a variety of plants from seed that can be used in the vast field of farm and rangeland conservation work throughout the region.

"What's pretty amazing is that some of the board members of the district actually took out a mortgage with personal funds to buy that first farm plot," Firth said. "And the Aberdeen Plant Materials Center has been leasing the land ever since.""I still can't believe they did that," added Derek Tilley, manager of the Aberdeen PMC. "That just shows how supportive the district is of our work."

The Aberdeen Plant Materials Center is one of 25 PMC's nationwide, all run by the USDA Natural Resources Conservation Service. The farm land used for research by the Aberdeen PMC has grown over the years. Today, the center has 149 acres of farm land that it uses for plant research and development, including 67 acres that it leases from the Idaho Department of Fish and Game, and another 39 acres that the South Bingham District purchased more recently for the center.

This time around, the district obtained a loan for purchasing the farm ground, and the Aberdeen PMC leases the land from the district and makes payments to cover the debt service. It all works just fine, said Chris Wride, chairman of the South Bingham SCD. "We have a really symbiotic relationship," Wride said. "We help them, and they help us."

Derek Tilley, Aberdeen Plant Materials Center Manager, observes the PMC pollinaters. (Inset: South Bingham SCD pollinator garden)

Aberdeen PMC officials attend South Bingham SWCD meetings on a regular basis, help suggest plant varieties that might work for conservation projects, and keep the district up to speed on what they are doing on a region-wide basis. "They're very accommodating," Wride said.

Another benefit is that the center allows the Bingham SWCD to grow hay on some of the private farm ground that it leases, and the Bingham District sells the alfalfa hay and straw it harvests from the land to help fund summer employees at the center. Most recently, the district raised $15,236 in sales from alfalfa and straw that it donated to the center for covering the cost of summer employees.

Aberdeen PMC Manager Derek Tilley noted the center is a research facility that's dedicated to developing special plant varieties for conservation work. After the center develops new plant varieties, the seed stock is turned over to the University of Idaho Foundation Seed Program or the Utah Crop Improvement Association, and the private sector takes over from there to sell the seeds on a commercial basis.

Right now, the center is focused on developing plant varieties for three general needs-- cover crops for improving soil health, native forbs for enhancing wildlife habitat, and perennial plants for improving grazing land health. The center is also working on testing different varieties of pollinators to help with the loss of pollinator plants for different kinds of bees.

Testing forbs in research plots to enhance establishment on rangelands. The Aberdeen PMC has been experimenting with planting forbs under special hollow-frame snow fences and an insulation fabric ground cover on rangelands to see if increased moisture-retention will help the forbs get established.

"The big hindrance with forbs is that you need the right amount of moisture at the right time to create moist conditions for the seeds to germinate, establish and grow," Tilley said. "We're looking at different ways to trap moisture and hold it."

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Interseeded cover crop between corn

They have established research plots in Downey, Idaho, Spanish Fork, Utah and Clarkston, Utah. They're planting a variety of forbs in the plots, including basalt milkvetch, prairie clover, several lupine species, globe mallows, native buckwheat, mountain dandelion and scarlet gilia.

Eventually, the Aberdeen PMC will be able to recommend the best moisture-retention methods and what plant varieties respond best. The outcome of the research could benefit forb plantings for improving sage grouse habitat and CRP lands.

Research on perennial grasses for restoring rangeland health. The center is testing perennial plants that might work well for planting in the aftermath of a wildfire in areas that have 12 inches or less precipitation per year.

"In nature, you only get the right conditions for seed recruitment every five or 10 years, but the government doesn't work on that schedule, so we're working on developing varieties that might come in after a fire or some kind of disturbance," Tilley said.

In the aftermath of the Soda wildfire on BLM land last August, the Aberdeen PMC was asked to make recommendations, he said. "We try to use natives as much as possible, but if the site is degraded, we tend to use introduced species that are a little more drought-resistant."

Siberian wheatgrass, a close cousin to crested wheatgrass, is one of those species that does well in those situations, Tilley said. The Aberdeen PMC is testing Russian wild rye as a use for preventative fuel breaks. It out-competes cheatgrass, it stays green through the summer, and it's really good forage for wildlife and livestock in the fall and winter, he said. "If we're losing a half-million acres to fire and cheatgrass each year, we need to come up with the best options we can to restore rangelands," said Tilley.

Developing new cover crop varieties for soil health. Because of NRCS's emphasis on soil health nationwide, the cover crop research is a new area for the Aberdeen PMC. "We want to see what species work in Idaho," he said. They're testing radishes, common vetch and hairy vetch, among others.

In an interesting experiment, all 25 NRCS plant materials centers are testing eight different cover crop species at each center to see how they do. "We're all going to plant the same thing and then we'll have some regional recommendations after we see how the plants do in each region," he said. "It's kind of a neat experiment. I think the NRCS is the only agency that could pull off an experiment like that because of our plant materials centers being located throughout the nation."

Looking at pollinator plants for honey bee habitat. "Over the last several decades, we've lost habitat for native bees, and we've seen a decline in our honey bees," Tilley said.

The Aberdeen PMC is looking at different plant varieties that could benefit pollinator species and provide nectar and pollen for bees. The plants could be planted on large tracts of CRP land, pivot corners, on the edge of crop fields, or even on small garden plots at home.

The center developed one pollinator plant, Amethyst Germplasm Hoary Tansyaster, that it collected from the St. Anthony Sand Dunes.

It's a vigorous late-season pollinator with purple flowers that would benefit several butterfly species, bees and flies. It's also palatable to sage grouse. It was released for commercial use in 2014.

Over the years, the Aberdeen PMC has developed 43 plants to be used in conservation projects in the Intermountain West. Some of the species have been valuable for use in the Farm Service Agency's Conservation Reserve Enhancement Program (CREP), a program for which the Conservation Commission provides technical assistance.

Testing forbs in research plots to enhance establishment on rangelands.

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ABERDEEN CENTER, *cont. from Pg. 3*

Species developed by the Aberdeen PMC have been valuable for use in CREP projects, a program for which the Conservation Commission provides technical assistance.

In this program, farmers can opt to take marginal irrigated crop land out of production and plant a permanent cover crop.

Some of the perennial grasses that the center has developed for CRP and CREP lands include:

- Perennial grasses Tegmar intermediate wheatgrass
- Amethyst hoary tansyaster
- Anatone bluebunch wheatgrass
- Regar meadow brome
- Vavilov II Siberian wheatgrass
- Goldar bluebunch wheatgrass
- Maple Grove Lewis flax
- Richfield firecracker penstemon
- Delar small burnet
- Sodar Streambank Wheatgrass

Firth said it's been great to have the Aberdeen PMC close by to learn from what they're doing and get ideas on new things to try in conservation projects. She recalled five years ago when her husband, John Firth, planted a perennial grass garden at their farm to test the grasses. The Aberdeen PMC provided the seed. She and John invited a number of co-workers and NRCS employees to see how the plants were doing. It's just one of many examples of the Aberdeen PMC working with their neighbors. "They do a lot of really cool things," she said.

"They've been a real boon for our community," added Wride. ❒

Steve Stuebner writes about conservation success stories for the Conservation Commission on a regular basis. - ED

Idaho Soil Commission Water Quality Resource Conservationist George Hitz, observes the pollinators' new plot

PMC Pollinators at work

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